	Application No.	Applicant(s)
Notice of Allowability	10/622,144	WIEDEMANN ET AL.
	Examiner	Art Unit
	DAVID P. ZARKA	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment received 1/5/2011 and interview on 3/4/2011*.

2. ☒ The allowed claim(s) is/are *1-9 and 50-64*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

            International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20110304* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/DAVID P ZARKA/
Primary Examiner, Art Unit 2624

EXAMINER'S AMENDMENT & STATEMENT OF REASONS FOR ALLOWANCE

Table of Contents

Amendment & Claim Status

[1]   This Examiner's Amendment & Statement for Reasons for Allowance is responsive to Amendment received on Jan. 6, 2011 and the interview on Feb. 28, 2011. Claims 1-9 and 50-64 pending.

In response to Amendment and the interview, the previous

rejected Claims 1-9 and 50-56 under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention; rejected Claims 1, 4, 6, 50, 51, 54-58, 61, 63 and 64 under § 102(e) as being anticipated by Brill et al., U.S. Pat. No. 6,542,621 ("Brill") (filed Aug. 31, 1999, claiming benefit to Aug. 31, 1998); and rejected Claim 7 under § 103(a) as being unpatentable over Brill in view of Hsu, U.S. Patent No. 6,618,490 ("Hsu")

are withdrawn.

Formal Examiner's Amendment

[3]   This formal Examiner's Amendment is responsive to the telephone interview dated Feb. 28, 2011. See attached Examiner-Initiated Interview Summary.

[4]   Authorization for this examiner's amendment was given in a telephone interview with Michael Weinberg (Reg. No. 63,985) on Feb. 28, 2011.

This formal Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Amendment to the Claims

      1.   (Currently Amended) A method for identifying objects in an image comprising:

      receiving an image with a first resolution, the image representing a scene including ~~physical~~ objects;

      transforming, by a computer, the image at the first resolution to an image at a second resolution, the first resolution being higher than the second resolution;

      processing, by the computer, the image at the second resolution to identify an object, from among the ~~physical~~ objects included in the received image, in the image at the second resolution;

      selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identified at the second resolution; and

      processing, by the computer, the image at the first resolution using the object identified at the second resolution to identify another object, from among the ~~physical~~ objects included in the received image, in the image at the first resolution according to the selected detection algorithm.

      2.   (Currently Amended) The method of claim 1, further comprising:

      transforming the image at the second resolution to an image at a third resolution, the second resolution being higher than the third resolution; and

      processing the image at the third resolution to identify yet another object from among the ~~physical~~ objects, wherein the yet another object is employed in the identification of the object and the another object.

      3.   (Previously Presented) The method of claim 2, wherein:

      the transforming of the image at the first resolution includes downsampling the image from the first resolution to the second resolution; and

      the transforming of the image at the second resolution includes downsampling the image from the second resolution to the third resolution.

      4.   (Previously Presented) The method of claim 1, wherein at least one of the processing of the image at the second resolution and the processing of the image at the first

resolution is performed as a function of a type of terrain in the image at the second resolution and the image at the first resolution, respectively.

5.   (Original) The method of claim 4, wherein the type of terrain is identified using a priori information and a gray level co-occurrence identification.

6.   (Previously Presented) The method of claim 1, further comprising:

determining whether the object and the another object are desired objects based upon a context associated with at least one of the image at the first resolution and the image at the second resolution.

7.   (Original) The method of claim 1, wherein the object is a river.

8.   (Previously Presented)   The method of claim 2, wherein the processing of the image at the third resolution comprises:

identifying portions of the image at the third resolution containing clouds; and

identifying portions of the image at the third resolution containing bodies of water, wherein if portions of the image at the third resolution are identified which contain clouds or bodies of water, identifying the clouds or bodies of water as the yet another object.

9.   (Previously Presented) The method of claim 8, wherein the identified portions of the image at the third resolution containing clouds or bodies of water are employed in the identification of objects in the image at the second resolution and other objects in the image at the first resolution.

10-49. (Canceled)

50.   (Previously Presented) The method of claim 1, wherein the selected_detection algorithm for identifying the other object at the first resolution is automatically selected from among the plural detection algorithms.

51.   (Previously Presented) The method of claim 1, wherein the plural detection
algorithms include at least two algorithms respectively corresponding to gray level co-
occurrence identification, linear object identification, primitive extraction identification, cloud
masking, river masking, activity detection identification, edge extraction identification, gradient
magnitude thresholding, busy mask identification, gradient direction edge thinning, line
extraction identification, segmentation, region merging, collinear line identification, parallel line
identification, parallel edge identification, intensity valuation identification, intensity variance
identification, small object detection, morphological filtering, structure detection, lines of
communication detection, and contextual line reasoning.

52.   (Previously Presented) The method of claim 2, wherein the selecting of the
detection algorithm includes selecting the detection algorithm from among the plural detection
algorithms based on the condition associated with the object identified at the second resolution,
and a condition associated with the yet another object identified at the third resolution.

53.   (Previously Presented) The method of claim 1, wherein:

the processing of the image at the second resolution includes processing the image at the
second resolution according to a first detection algorithm;

the selecting of the detection algorithm includes selecting a second detection algorithm,
which is different from the first detection algorithm, from among the plural detection algorithms
based on the condition associated with the object identified at the second resolution; and

the processing of the image at the first resolution includes processing the image at the
first resolution according to the selected second detection algorithm.

54.   (Previously Presented) The method of claim 1, wherein the receiving of the image
includes receiving the image at the first resolution from at least one of an imaging device and a
photographic device.

55.   (Previously Presented) The method of claim 1, wherein the condition associated with the object identified at the second resolution includes at least one of a geographic location, a terrain type, a ground sample distance, weather, a time of day, temperature, a viewing condition, a band frequency of a sensor, a degree of freedom of the sensor, a viewing angle of the sensor, and a positional vector.

56.   (Previously Presented) The method of claim 1, comprising:

displaying the object identified at the second resolution and the another object identified at the first resolution on a display device.

57.   (Currently Amended) A computer-readable recording medium having a computer program recorded thereon that causes a computer to identify objects in an image, the program causing the computer to perform operations comprising:

receiving an image with a first resolution, the image representing a scene including objects;

transforming the image at the first resolution to an image at a second resolution, the first resolution being higher than the second resolution;

processing the image at a second resolution to identify an object, from among the objects included in the received image, in the image at the second resolution;

selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identified at the second resolution; and

processing the image at the first resolution using the object identified at the second resolution to identify another object, from among the objects included in the received image, in the image at the first resolution according to the selected detection algorithm.

58.   (Previously Presented) The computer-readable recording medium of claim 57, wherein the condition associated with the object identified at the second resolution includes at least one of a geographic location, a terrain type, a ground sample distance, weather, a time of day, temperature, a viewing condition, a band frequency of a sensor, a degree of freedom of the sensor, a viewing angle of the sensor, and a positional vector.

59.   (Previously Presented) The computer-readable recording medium of claim 57, wherein the program causes the computer to perform operations comprising:

transforming the image at the second resolution to an image at a third resolution, the second resolution being higher than the third resolution;

processing the image at a third resolution to identify yet another object; and

employing the yet another object in the identification of the object and the another object.

60.   (Previously Presented) The computer-readable recording medium of claim 59, wherein the operation of selecting the detection algorithm includes selecting the detection algorithm from among the plural detection algorithms based on the condition associated with the object identified at the second resolution and a condition associated with the yet another object identified at the third resolution.

61.   (Previously Presented) The computer-readable recording medium of claim 57, wherein the plural detection algorithms include at least two algorithms respectively corresponding to gray level co-occurrence identification, linear object identification, primitive extraction identification, cloud masking, river masking, activity detection identification, edge extraction identification, gradient magnitude thresholding, busy mask identification, gradient direction edge thinning, line extraction identification, segmentation, region merging, collinear line identification, parallel line identification, parallel edge identification, intensity valuation identification, intensity variance identification, small object detection, morphological filtering, structure detection, lines of communication detection, and contextual line reasoning.

62.   (Previously Presented) The computer-readable recording medium of claim 57, wherein:

the operation of processing the image at the second resolution includes processing the image at the second resolution according to a first detection algorithm;

the operation of selecting the detection algorithm includes selecting a second detection algorithm, which is different from the first detection algorithm, from among the plural detection

algorithms based on the condition associated with the object identified at the second resolution; and

the operation of processing the image at the first resolution includes processing the image at the first resolution according to the selected second detection algorithm.

63.   (Previously Presented) The computer-readable recording medium of claim 57, wherein the program causes the computer to determine whether the object and the another object are desired objects based upon a context associated with at least one of the image at the first resolution and the image at the second resolution.

64.   (Previously Presented) The computer-readable recording medium of claim 57, wherein the program causes the computer to display at least one of the object identified at the second resolution and the another object identified at the first resolution on a display device communicatively connected to the computer.

Allowable Subject Matter

[2]   **Claims 1-9** and **50-64** allowed.

Reasons for Indicating Allowable Subject Matter

[3]   The following is a statement of reasons for the indication of allowable subject matter:

Regarding **Claim 1**, the prior art does not teach (i) transforming the image at the first resolution to an image at the second resolution, the first resolution being higher than the second resolution; and (ii) selecting a detection algorithm from among plural detection algorithms based on a condition associated with the object identified at the second resolution. **Claim 57** allowed by analogy.

Conclusion

[4]   Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. ZARKA whose telephone number is (571)270-1578 and fax number (571)270-2578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-74537453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Zarka/
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